

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 5

**C. Amendments To The Drawings:**

Please amend the drawings as shown in the attached sketch.

Attachment: Replacement Sheet  
Annotated Sheet Showing Changes

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 6

**D. Remarks/Arguments:**

**Introduction**

The Examiner has required that an election be made with respect to the present application. In addition, the Examiner has objected to the drawings. The Examiner has also rejected Claim 6 under 35 U.S.C. 112, first paragraph and Claims 3-6 and 5 under 35 U.S.C. 112, second paragraph. Furthermore, the Examiner has rejected Claims 3-5 under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent 3,952,662 to Greenlees, (hereinafter Greenlees) and had rejected Claim 6 under 35 U.S.C. 103 (a) as being unpatentable over Greenlees in view of either U.S. Patent 6,546,874 to Vasel et. al. (hereinafter Vasel) or EP 103, 509 A1 to Lefebve (hereinafter Lefebve). Finally, the Examiner has rejected Claims 3-6 under 35 U.S.C. 103 (a) as being unpatentable over Lefebve in view of U.S. Patent 4,962,926 A to Chen (hereinafter Chen). Reconsideration is respectfully requested.

**Election/Restrictions**

The Examiner has required that an election be made with respect to the present application. The election is between two groups delineated by the Examiner. More specifically, the Examiner has restricted the invention under 35 U.S.C. §121 into the following groups:

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 7

- I. Claims 1-2, drawn to a close range spherical projectile comprising radially extending resilient filaments, the projectile for firing from the bore of a weapon, the filament of the projectile being compressed within the bore, classified in class 10, subclass 501.
- II. Claims 3-6, drawn to non-lethal shotgun round, classified in class 102, subclass 439.

In response, Applicant elects to prosecute Group II, claims 3-6.

### Drawings

The drawings have been objected to by the Examiner as failing to comply with MPEP §608.02(g), 37 C.F.R. §1.83(a). Specifically, the Examiner has stated that the drawings must show every feature of the invention specified in the claims. In response, attached please find new Figure 2A depicting a plurality of spherical projectiles positioned linearly within the hull, as disclosed in paragraph 21 of the specification. No new matter has been added. Subject to the approval of the Examiner, and upon an indication of allowable subject matter, formal drawings will be prepared incorporating these changes. Reconsideration of the application is respectfully requested.

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 8

### **Section 112 Rejections**

The Examiner has rejected claim 6 under 35 U.S.C. 112, first paragraph, because the specification while being enabling for an integrally formed core cover 44 that encloses the projectile core 42 does not reasonably provide enablement for an embodiment in which the projectile core and the cover comprise an integrally formed projectile.

In addition, the Examiner has rejected claim 3-9 (applicant assumes this was a typographical error and that the Examiner meant to refer to claims 3-6) under 35 U.S.C.112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states that it is unclear how the ““diameter”...of the projectile...can be “greater than the inner diameter of the tubular hull””.

Furthermore, the Examiner has rejected claim 5, indicating that the term “fine” is a relative term which renders the claim indefinite. Finally, the Examiner has also rejected claim 5 because the term “hedgehog-like” is indefinite.

With regard to Claim 6 Applicant respectfully traverses the Examiners rejection. The Examiner rejects Claim 6 stating that the specification does not reasonably provide enablement for an embodiment in which the projectile core and the cover comprise an integrally formed projectile. However, Claim 6 in no way claims a limitation to a core and

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 9

cover comprising an integrally formed projectile. The limitations of Claim 6 relate solely to a hull carrying a plurality of projectiles. Therefore, reconsideration and withdrawal of the claim rejection under 35 U.S.C. §112 first paragraph with respect to Claim 6 is respectfully requested.

With regard to Examiner rejection of claims 3-6 under 35 U.S.C.112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, Applicant respectfully traverses the rejection. Paragraph 16 of the specification states:

**“The filaments themselves define an outer diameter d1, which is substantially greater than the inner diameter d2 of hull 16 or the bore form which the projectile is fired. Thus in FIG. 2 as the ball type projectile 40 is placed within the hull, the filaments substantially compressed to a smaller diameter.”**

The specification cited above clearly explains the limitations of claim 3, wherein the outer diameter is substantially greater than the inner diameter in the uncompressed state, but is substantially compressed to fit within the smaller inner diameter. Therefore, reconsideration and withdrawal of the claim rejection under 35 U.S.C. §112 second paragraph with respect to Claims 3-6 is respectfully requested.

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 10

With regard to the Examiner rejection of Claim 5, Applicant respectfully traverses. The shape of the ball type slug is defined in the specification of the present invention by reference to U.S. Patent No. 4,962,926, which incorporated by reference. The shape is defined as:

**“...a plurality of floppy, circular rod-like filaments incorporated with a core holder in such a manner that they radiate uniformly outwardly from the core holder to form therewith a substantially spherical object.” col., lines 59-63.**

and

**“a big amount of floppy, slender, elastic filaments (12) uniformly radiate from a core and form a spherical body (10) like a lively hedgehog.” col. 2, lines 38-40.**

Furthermore, The New Shorter Oxford English Dictionary includes in the definitions for “Hedgehog”:

**“...4. Any of various objects held to resemble a hedgehog in shape...”**

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 11

The limitations of Claim 5 when read in the context of the specification and definition cited above, relates to a “hedgehog-like” shape as being intended to describe a rolled up hedgehog. This is clearly expressed by the statements in the specification describing filaments uniformly radiating from a central core, and forming a spherical body.

With respect to the use of the word “fine”, applicant submits the term is not indefinite within the context of the specification and Figures. The drawing depicted in Figure 1 depicts filaments having a cross sectional diameter that is significantly shorter than the length of the filaments. Moreover, The New Shorter Oxford English Dictionary includes in the definitions for “Fine”:

**“14. Delicate in structure; thin, filmy”** and

**“15. Extremely thin or slender.”**

Clearly within the context of the specification and usual and customary English definition of “fine” the limitation refers to filaments having a structure that one of ordinary skill in the art would understand. Specifically, the limitations when read in the context of the specification refers to filaments having a cross sectional diameter that is significantly shorter than the filament length. Therefore, reconsideration and withdrawal of the claim rejection under 35 U.S.C. §112 second paragraph with respect to Claim 5 is respectfully requested.

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 12

### **Section 102 Rejections**

Claims 3-5 stand rejected under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent 3,952,662 to Greenlees. This determination is respectfully traversed.

In contrast to the present invention, Greenlees discloses a less than lethal projectile that must be oriented in a particular direction in flight for both accuracy and desired action on impact with the target. Specifically, Greenlees requires that the plurality of fingers attached to the forward end be oriented perpendicular to the line of flight at the time of impact. Figures 2, 4, 5 and 6 of Greenlees depict a projectile 26 having arms 30 which extend from the projectile. However, in contrast to the present invention, the projectile of Greenlees, in Figures 2, 4, 5 and 6 is not spherical, nor does it have "...a plurality of uniformly radially extending resilient filaments defining an outer diameter...". The projectile of Greenlees, while described as having "an essentially spherical pliant central body", the figures depict an oblong spheroid or football shaped object. In no way can the Figures of Greenlees be interpreted to disclose a sphere or round ball.

Furthermore, the arms of Greenlees do not uniformly radiate out from the surface of a sphere, as in the present invention, but instead, only extend radially in one plane from about the midpoint of the football shaped central body. This is in contrast to the present invention

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 13

where filaments uniformly radiate from the spherical central core, thus forming a spherical outer diameter when the filaments are fully extended. In addition, the filaments of the current invention are resilient, returning to their expanded state when released from the bore. The space between the filaments allows the projectile according to the present invention to be compressed into the shell bore.

Accordingly, claims 3-5 include specifically recited elements which are not found in the disclosure in Greenlees. As such, as a matter of law, Greenlees cannot anticipate claims 3-5 of the present invention.

It is, therefore, respectfully submitted that claims 3-5, as well as the claims which depend therefrom, define patentably over Greenlees.

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 14

### **Section 103 Rejections**

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Greenlees in view of either Vasel or Lefebvre. This determination is respectfully traversed.

As noted above, Greenlees is deficient in that it fails to disclose a spherical projectile with uniformly radiating filaments from a central core. Both the Vasel and Lefebvre references fail to fill these deficiencies.

Vasel, teaches a projectile system employing a plurality of projectiles for carrying an impairing or marking substance, generally disclosed as a liquid. Likewise, Lefebvre discloses spherical projectiles or a single, larger smooth sphere stabilized by an attached arrangement of vanes or fins similar to an archer's arrow. This invention has no design characteristics that are relevant to less than lethal projectiles.

The reference to multiple projectiles in Vasel and Lefebvre are intended to increase the potential hit probability. With the type of projectile used in Vasel and Lefebvre, round projectiles are well known to be inherently inaccurate at distance. The use of multiple projectiles in the current invention which is specifically intended as a close range projectile

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 15

would be to divide up the total kinetic energy at close range. The advantage in spreading the kinetic energy at close range reduces injury potential.

The current invention finds greater advantage in effective management of kinetic energy than potential missed shots.

Therefore, there would be no motivation to look to either Vasel or Lefebve to add a plurality of projectiles, as both Vasel and Lefebve discloses a plurality of projectiles for a completely different purpose as in the present invention. Thus, both Vasel and Lefebve fail as a reference as there would be no motivation to combine Vasel or Lefebve with Greenlees to arrive at the present invention.

In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* Thus, the express teachings of Greenlees, Vasel and Lefebve, which would lead one away from the invention defined by claim 6, may not be ignored during examination.

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 16

To arrive at the present invention as defined by claim 6, the Action not only ignored the express teaching of Greenlees, but also engaged in hindsight reconstruction because none of the documents of record teach or suggest the process as claimed, as the cited references, i.e., Greenlees, and either Vasel and Lefebve, all require features not found in the present invention. It is well established that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness and any attempt at hindsight reconstruction using Applicants' disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993).

Thus, Greenlees and either Vasel and Lefebve, individually or in combination, fail to teach the present invention as set forth in claim 6.

Claims 3-6 stands rejected under 35 U.S.C. 103 (a) as being unpatentable over Lefebve in view of U.S. Patent 4,962,926 A to Chen (hereinafter Chen). Reconsideration is respectfully requested.

As stated above, Lefebve discloses multiple spherical projectiles or a single, larger smooth sphere stabilized by an attached arrangement of vanes or fins similar to an archer's arrow, and having no design characteristics that are relevant to less than lethal projectiles. The vanes or fins of Lefebve are intended for flight orientation, and the multiple projectiles

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 17

are intended for lessening the chance of missing a target. Therefore, there is no teaching in Lefebve related to less than lethal projectiles.

Chen does not disclose a projectile at all, rather a toy intended for small children to roll and toss. The present invention is intended to impart painful and temporarily disabling quantities of kinetic energy on a person or animal and has no parallel with the design and intent in Chen.

The filaments on Chen are intended to eliminate painful impact on contact at the very low velocities at which they are rolled, tossed and caught. The present invention is designed for use at very high velocity compared to the device of Chen and uses the filaments to mitigate impact and spread it over a larger area to avoid skin penetration and organ damage.

As such, one skilled in the art would have no motivation to look to the disclosure of either Lefebve or Chen to arrive at the present invention. Lefebve does not teach, disclose or suggest a projectile with uniformly radiating filaments and Chen does not teach, disclose or suggest a projectile at all. Nor is there any teaching in Lefebve that would lead one to consider the teachings of Chen to arrive at the present invention. Thus, Lefebve and Chen, individually or in combination, fail to teach the present invention as set forth in Claims 3-6.

Applicant: Keegstra et al.  
Application Serial No.: 10/748,944  
Filing Date: December 29, 2003  
Docket No.: 1122-9  
Page 18

Having responded in full to the present Office Action, it is respectfully submitted that the application, including claims 3-6, is in condition for allowance. Favorable action thereon is respectfully solicited.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

Respectfully submitted,

---

Stephen Cannavale  
Registration No.: 44,585  
Attorney for Applicant(s)

HOFFMANN & BARON, LLP  
6900 Jericho Turnpike  
Syosset, New York 11791  
(973) 331-1700

ANNOTATED SHEET SHOWING CHANGES

FIG 2A

